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PATENTS  
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May 4, 2004

**FACSIMILE MESSAGE – COVER SHEET**

To: Office of Initial Patent Examination's Filing      Fax number: 703-746-9195  
Receipt Corrections

Company: Patent and Trademark Office      Application No.: 10/645,985

No. of pages: 8 including cover sheet

From: Tuddy Denby for John M. Janeway      Our Ref: 1768-25-3

Regarding: MICROENERGY DEVICE FOR PRODUCING MECHANICALLY  
MODULATED MICROENERGY OUTPUT FROM DIGITAL  
MICROENERGY INPUT

Message:

Attached please find the Request for Correction to Filing Receipt regarding the above-referenced patent application.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Young-Ho Cho, Daejeon  
Title: MICROENERGY DEVICE FOR PRODUCING  
MECHANICALLY MODULATED MICROENERGY OUTPUT  
FROM DIGITAL MICROENERGY INPUT  
Application No.: 10/645,985  
Filing Date: 22 August 2003  
Examiner/Unit: /2838  
Attorney Docket No.: 1768-25-3

CERTIFICATE OF TRANSMISSION

Date of facsimile transmission: May 4<sup>th</sup>, 2004

I hereby certify that this correspondence is being transmitted via  
facsimile to Fax number (703) 746-9195, Office of Initial Patent  
Examination's Filing Receipt Corrections, on the date indicated  
above and is addressed to the Commissioner for Patents on this  
4<sup>th</sup> day of May, 2004.

  
Signature

REQUEST FOR CORRECTION OF FILING RECEIPT

COMMISSIONER FOR PATENTS  
APPLICATIONS PROCESSING DIVISION  
CUSTOMER CORRECTION BRANCH

Status:

A Filing Receipt for the above-referenced patent application has been issued by  
the PTO. The Filing Receipt is not accurate because the title of the application is not  
correct. The correct title is **MICROENERGY DEVICE FOR PRODUCING  
MECHANICALLY MODULATED MICROENERGY OUTPUT FROM DIGITAL**

**MICROENERGY INPUT.** The incorrect title on the Filing Receipt includes the following text twice "*Output From Digital Microenergy*". The correct title can be found on the application as filed and in the Declaration. The instant request provides the PTO with correct data so that the records for this patent application may be appropriately updated.

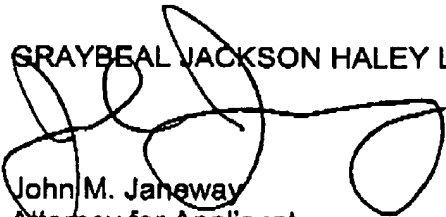
A copy of the PTO's Filing Receipt is included with this request. Reference to the Filing Receipt and the enclosed documents should provide the Office with sufficient evidence to support Applicants' request for correction.

A correction of the Filing Receipt is respectfully requested in this regard.

Should the Customer Correction Branch have any questions concerning this Request For Correction of Filing Receipt a call to the undersigned is strongly encouraged.

Respectfully submitted,

GRAYBEAL JACKSON HALEY LLP



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## UNITED STATES PATENT AND TRADEMARK OFFICE

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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/845,985 ✓	08/22/2003 ✓	2838 ✓	375 ✓	1768-25-3 ✓	6 ✓	18 ✓	1 ✓

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CONFIRMATION NO. 8622

## FILING RECEIPT

\*OC000000011284817\*

Date Mailed: 11/17/2003

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-748-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Young-Ho Cho, Daejeon, KOREA, REPUBLIC OF; ✓

## Domestic Priority data as claimed by applicant

## Foreign Applications

REPUBLIC OF KOREA 2002-49747 08/22/2002 ✓

If Required, Foreign Filing License Granted: 11/15/2003

Projected Publication Date: 02/28/2004 ✓

Non-Publication Request: No ✓

Early Publication Request: No ✓

\*\* SMALL ENTITY \*\* ✓

## Title

Microenergy device for producing mechanically modulated microenergy output from digital microenergy input

Preliminary Class

363

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Title 35, United States Code, Section 184  
Title 37, Code of Federal Regulations, 5.11 & 5.15**

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MICROENERGY DEVICE FOR PRODUCING MECHANICALLY MODULATED  
MICROENERGY OUTPUT FROM DIGITAL MICROENERGY INPUT ✓

CROSS-REFERENCE TO RELATED APPLICATIONS

5       The present application claims priority from Korean patent application No. 2002-49747, filed 22 August 2002, which is incorporated by reference.

BACKGROUND OF THE INVENTION

1. Field of the Invention

10       The present invention relates to a micro electro mechanical system (MEMS), and more particularly, to a microenergy device capable of generating extremely precise micro energy which is the most significant characteristic required in the microenergy device.

2. Description of the Prior Art

15       In general, a microenergy device refers to a device for outputting the finely adjustable microenergy. The microenergy may include force, displacement, velocity, momentum, pressure, flow rate, flow velocity, temperature, heat flux, heat flow, reaction energy, etc.

20       According to a principle of outputting the microenergy, such a microenergy device can be classified into a piezoelectric microenergy device, an electrostatic microenergy device, electromagnetic microenergy device, and thermal expansion microenergy device, for example.

25       Accordingly, an MEMS field is also classified, according to a type of the microenergy to be employed, into Bio-MEMS, Power-MEMS, Micro-fluidics, RF-MEMS, Optical-MEMS and the like. Therefore, the microenergy device serves as a microactuator, a micropump and a micromirror in the fields of the Power-MEMS, the Micro-fluidics and the Optical-MEMS, respectively.

Technologies for the microenergy devices can be known in the following published documents:

30       "Electrostatically actuated gas microvalve based on a Ta-Si-N membrane", Ph. Dubois, B. Guldemann, M.-A. Gretillat, N.F. de Rooij, Micro Electro Mechanical Systems, 2001, MEMS 2001, The 14<sup>th</sup> IEEE International Conference on 2001, pp. 535-538; and

"An SOI optical microswitch integrated with silicon waveguides and touch-down